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Cheng et al.  
Dual Match-Line, Twin-Cell, Binary-Ternary  
CAM  
S/N 10/064,770  
Atty. Docket #60409.300301

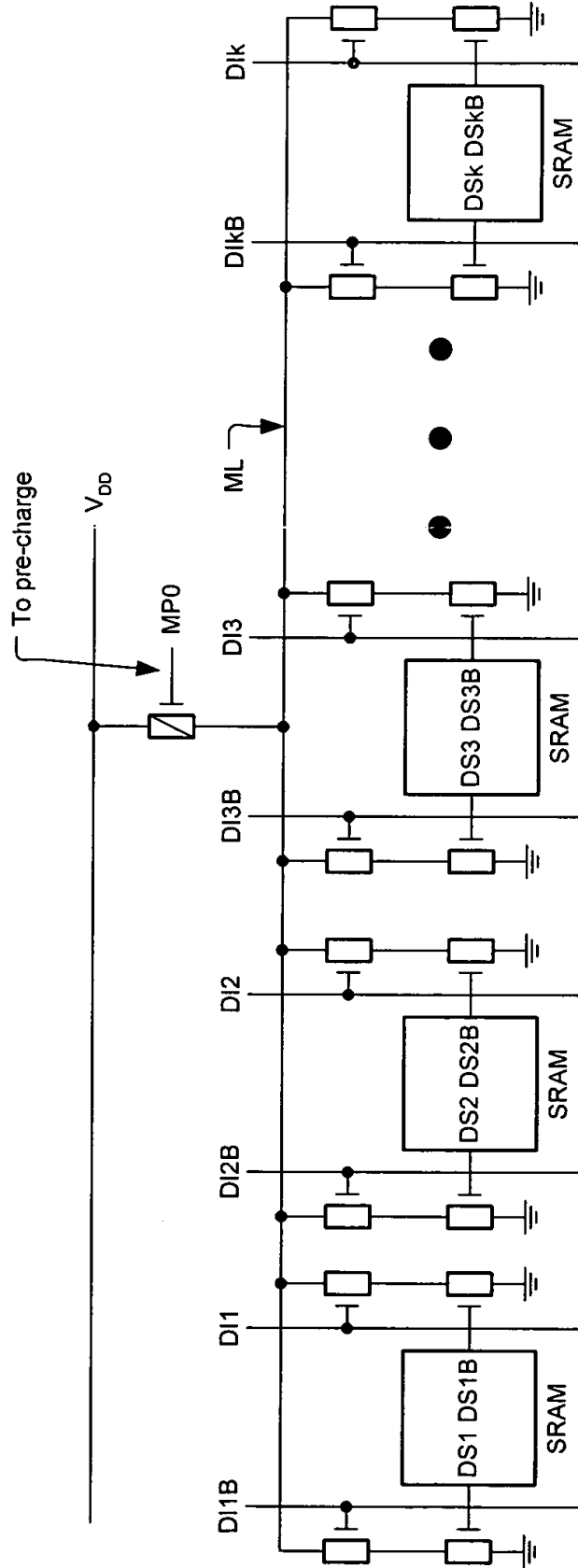
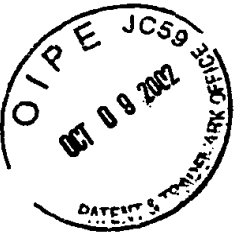


FIG. 1  
(background art)



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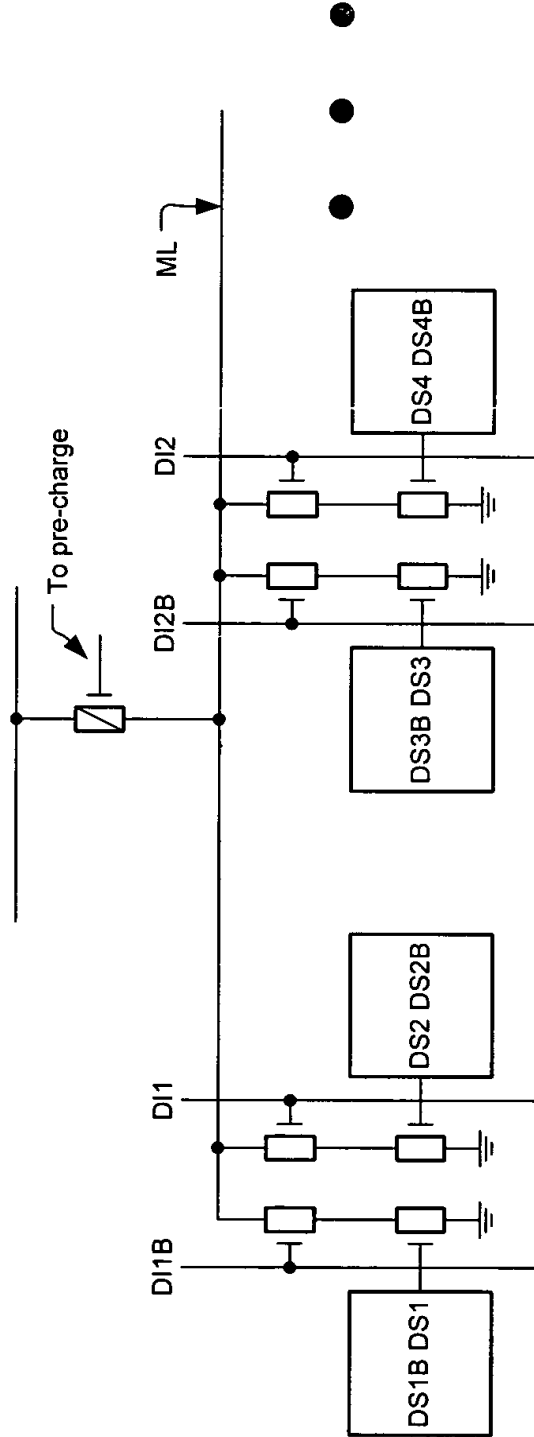


FIG. 2  
(background art)



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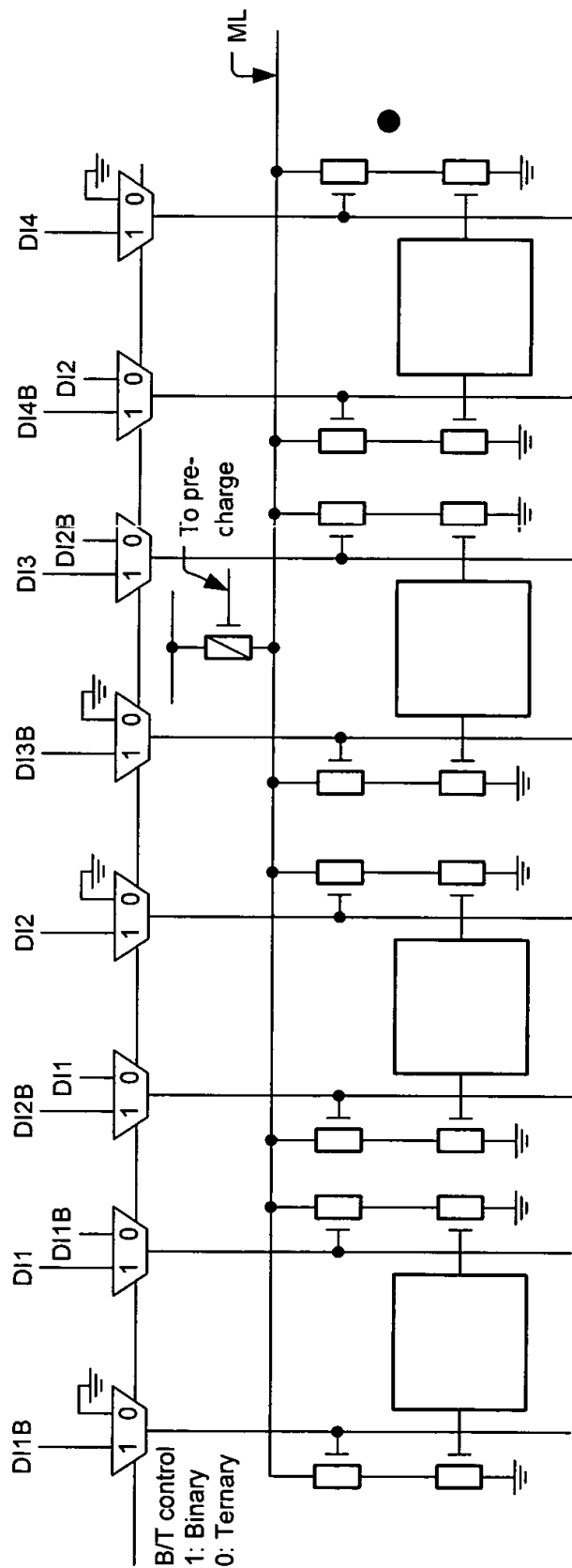
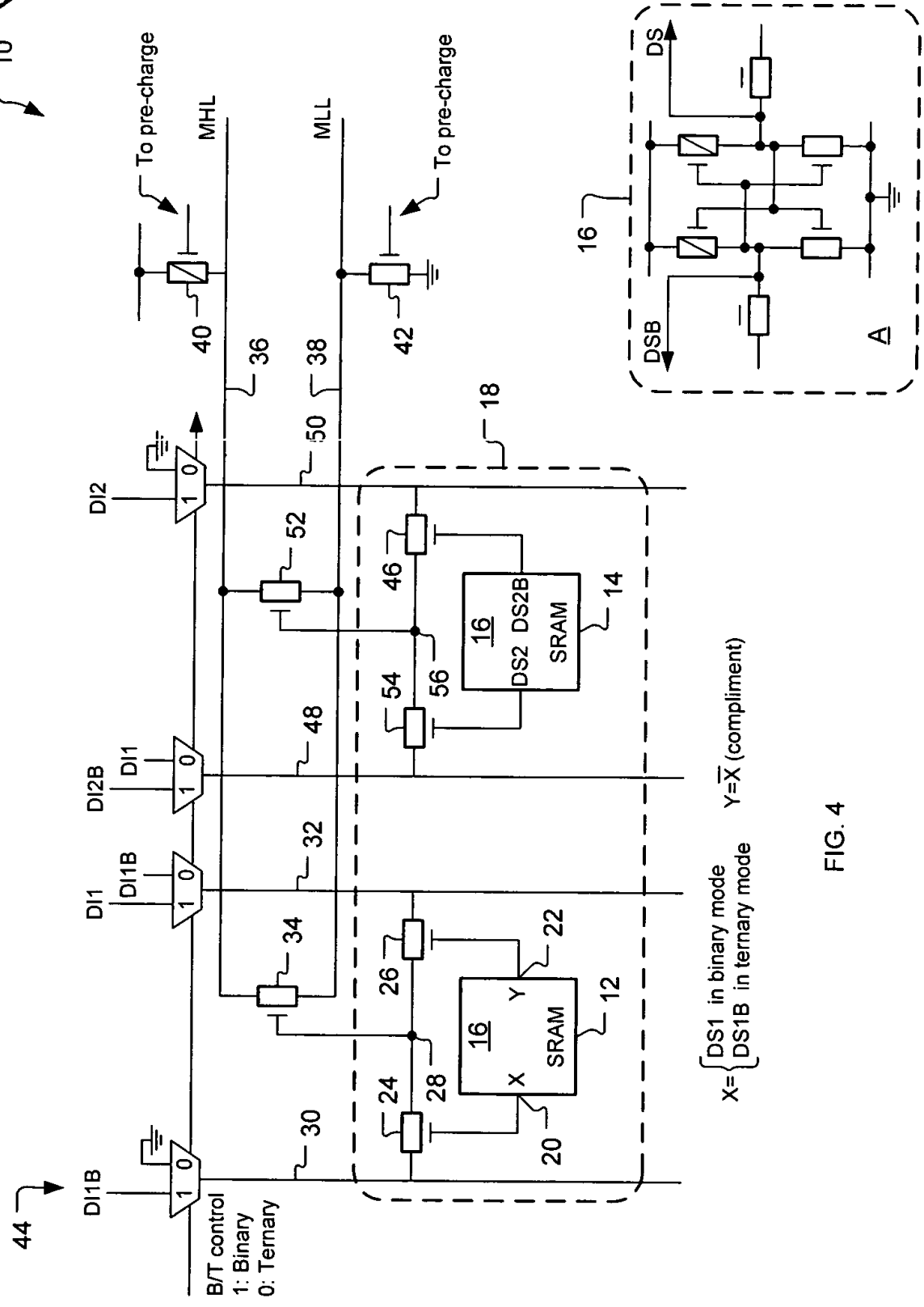


FIG. 3



10



$X = \begin{cases} \text{DS1} & \text{in binary mode} \\ \text{DS1B} & \text{in ternary mode} \end{cases}$

$Y = \overline{X}$  (compliment)

FIG. 4

[illegible]

**FIG. 5**



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3-phase comparison cycle  
Phase1: Data input phase  
Phase2: Comparison phase  
Phase3: Sampling phase

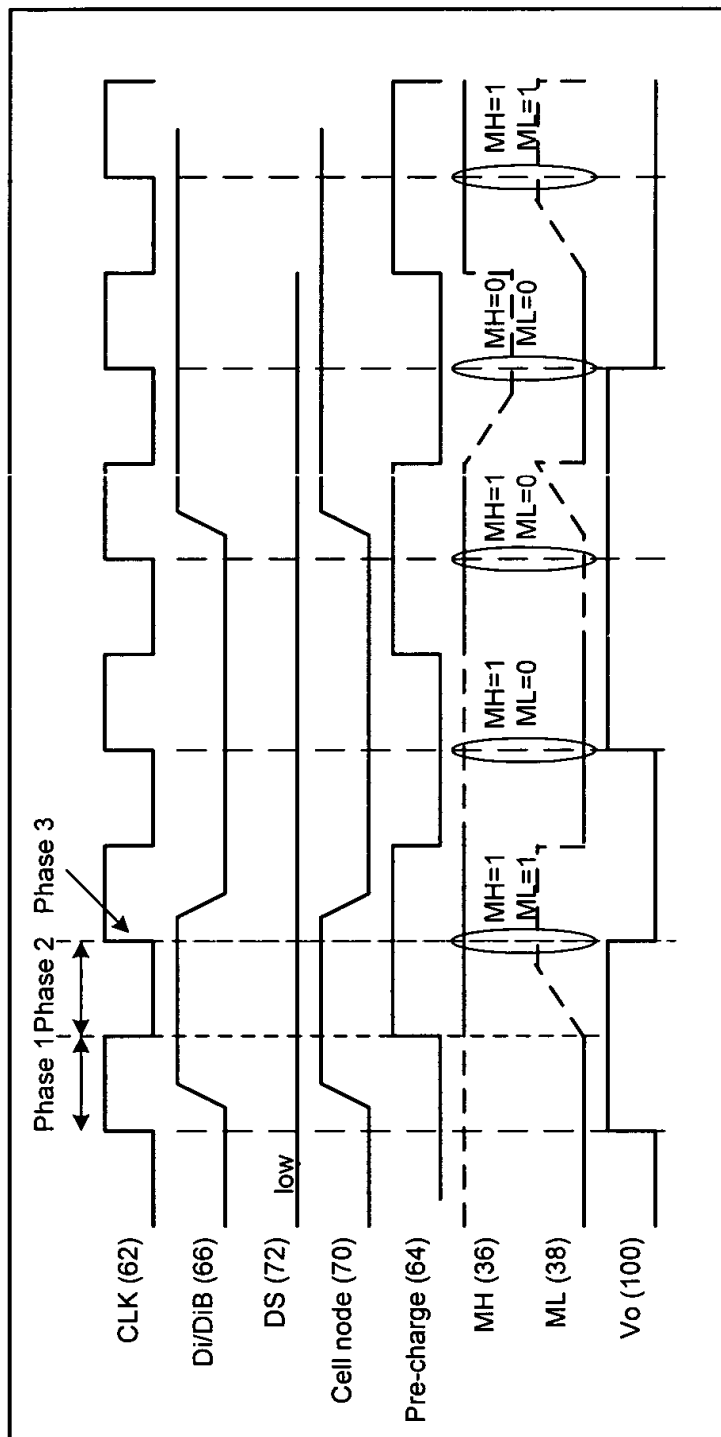


FIG. 6

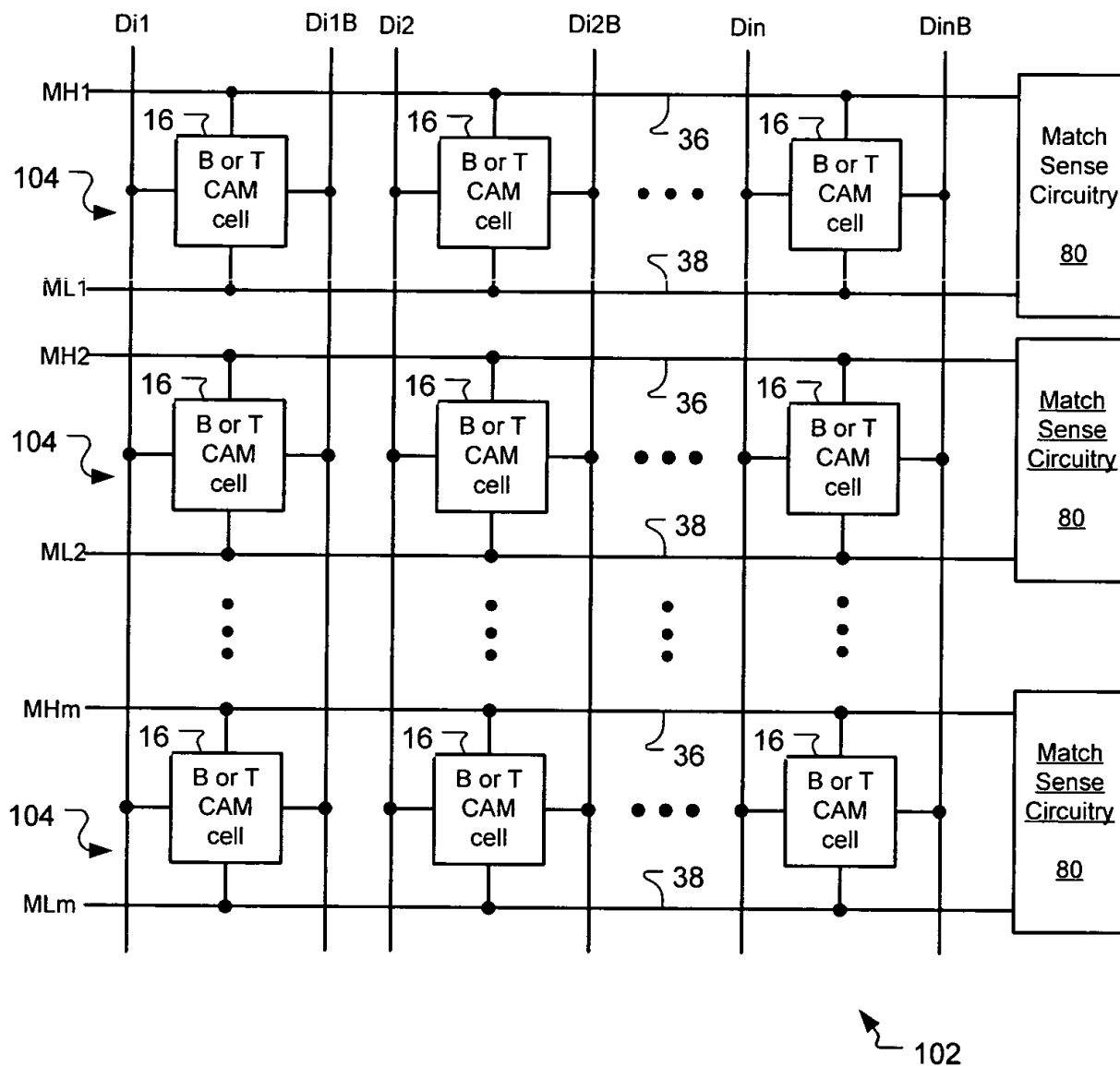
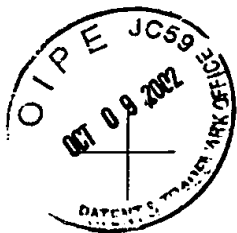
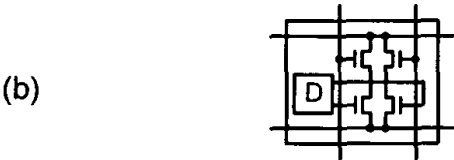
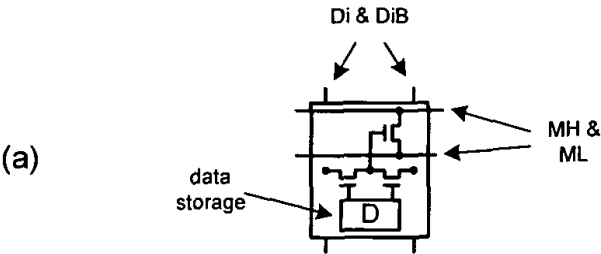


FIG. 7



Binary CAM cell examples

Ternary CAM cell examples

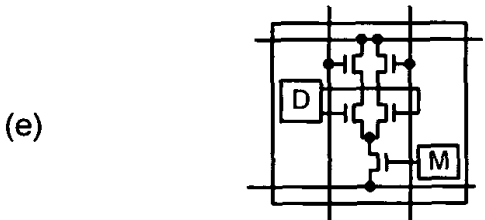
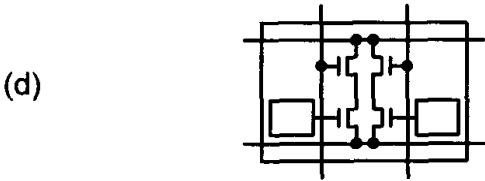
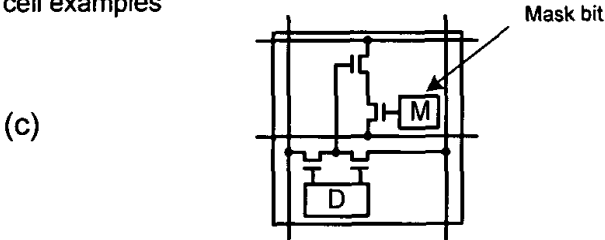


FIG. 8

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